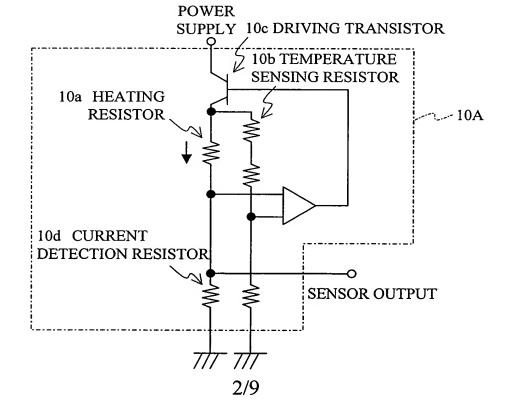


FIG.3



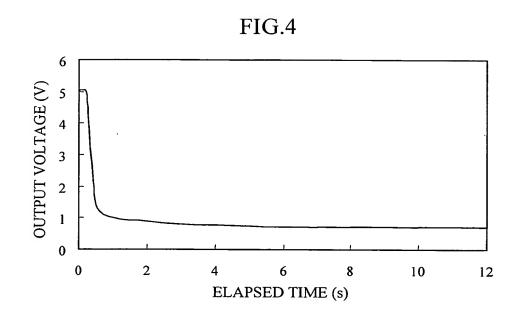
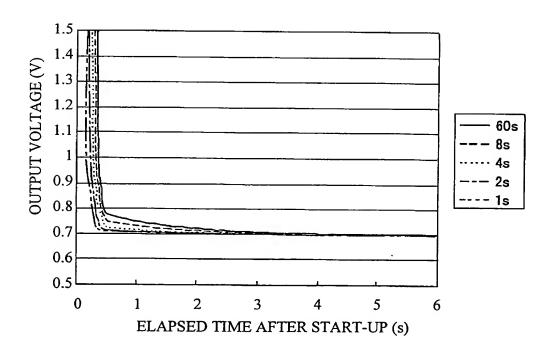
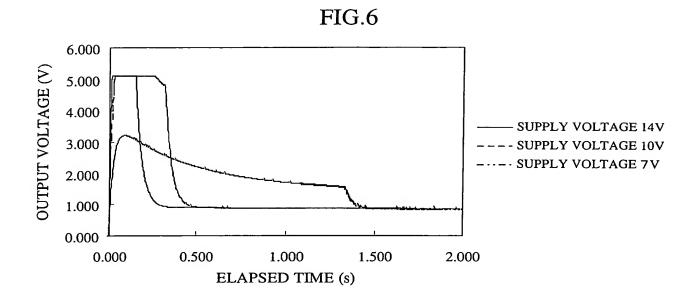


FIG.5





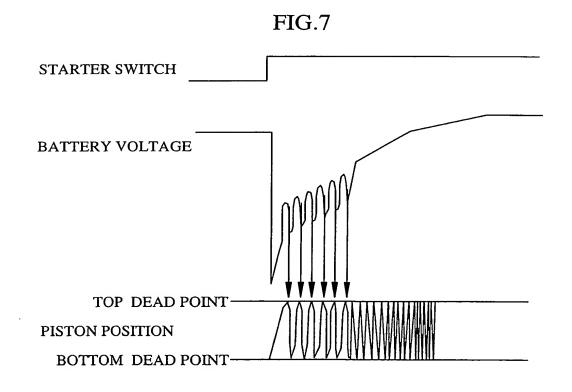


FIG.8	CONDITION A FULFILLMENT FLAG $\leftarrow$ 1  CONDITION A FULFILLMENT TIME COUNTER> =  PREDETERMINED VALUE c5	CONDITION A FULFILLMENT TIME COUNTER COUNTED UP	CONDITION A FULFILLMENT FLAG $\leftarrow 0$	CONDITION AT OPTITEMENT TIME COUNTER, O		CONDITION B FULFILLMENT FLAG $\leftarrow$ 1	CONDITION B FULFILLMENT $\left\langle \begin{array}{c} \text{CONDITION B EMPIRICAL} \\ \text{FLAG} \leftarrow 1 \end{array} \right\rangle$	PREDETERMINED VALUE c5	CONDITION B FULFILLMENT TIME COUNTER COUNTED UP	CONDITION B FULFILLMENT FLAG $\leftarrow 0$	CONDITION B FULFILLMENT TIME COUNTER ←0		CONDITION B EMPIRICAL FLAG = $0 < \text{SURGE TIME COUNTER}$	SURGE TIME COUNTER ← 0
	FER KEY ED VALUE c3 ERMINED VALUE c4 SOR OUTPUT	VED VALUE c1				'LAG = 1	ED VALUE $c_2$	>	_			MENT [4ms]	LAG 1=1	
CONDITION A	ELAPSED TIME AFTER KEY ON <predetermined &&="" air="" c3="" flow="" opening<predetermined="" output<="" sensor="" td="" throttle="" vai="" value=""><td>VOLTAGE&gt;= PREDETERMINED VALUE cl</td><td></td><td>ELAPSED TIME AFTER KEY ON COUNTER COUNTED UP</td><td>CONDITION B</td><td>CONDITION A EMPIRICAL FLAG =</td><td>&amp; AIR FLOW SENSOR OUTFUT VOLTAGE &lt; PREDETERMINED VALUE c2 &amp; BATTERY VOLTAGE &gt; =</td><td>PREDETERMINED VALUE c6</td><td></td><td></td><td></td><td>SURGE TIME MEASUREMENT [4ms]</td><td>CONDITION A EMPIRICAL FLAG 1=1</td><td></td></predetermined>	VOLTAGE>= PREDETERMINED VALUE cl		ELAPSED TIME AFTER KEY ON COUNTER COUNTED UP	CONDITION B	CONDITION A EMPIRICAL FLAG =	& AIR FLOW SENSOR OUTFUT VOLTAGE < PREDETERMINED VALUE c2 & BATTERY VOLTAGE > =	PREDETERMINED VALUE c6				SURGE TIME MEASUREMENT [4ms]	CONDITION A EMPIRICAL FLAG 1=1	

FIG.9

ELEMENT LEAD INITIAL TEMPERATURE INDEX CALCULATION

ELEMENT LEAD INITIAL TEMPERATURE INDEX CALCULATION COMPLETION FLAG = 0	CONDITION B EMPIRICAL FLAG = 1		CALCULATE ELEMENT LEAD INITIAL TEMPERATURE INDEX FROM ←SURGE TIME COUNTER VALUE, PREDETERMINED VALUE 67, AND BATTERY VOLTAGE CORRECTED VALUE
			ELEMENT LEAD INITIAL TEMPERATURE INDEX CALCULATION COMPLETION FLAG ← 1
		SURGE TIME COUNTER >	ELEMENT LEAD INITIAL TEMPERATURE INDEX ← PREDETERMINED VALUE c9
		PREDETERMINED \	ELEMENT LEAD INITIAL TEMPERATURE INDEX
			CALCIII ATION COMPLETION EL AG — 1

FIG 10

BATTERY VOLTAGE CORRECTION CALCULATION

HEATING ENERGY CALCULATION  ST EMPIRICAL FLAG = 0  HEATING ENERGY CALCULATION IST EMPIRICAL FLAG ← 1	(CONDITION A FULFILLMENT FLAG = 1)    CONDITION A EMPIRICAL FLAG = 1)  && (CONDITION B FULFILLMENT FLAG = 0)    CONDITION B EMPIRICAL FLAG = 0)    HEATING ENERGY INTEGRATED  VALUE   HEATING ENERGY  INTEGRATED VALUE (LAST TIME)  + (BATTERY VOLTAGE - 8)  PREDETERMINED VALUE c8)^2	HEATING ENERGY AVERAGE VALUE ← HEATING ENERGY INTEGRATED VALUE/(PREDETERMINED VALUE c9 + SURGE TIME COUNTER)  BATTERY VOLTAGE CORRECTED VALUE ← RESULT OF SEARCHING IN THE BATTERY VOLTAGE CORRECTION VALUE TABLE WITH HEATING ENERGY AVERAGE VALUE
HEATING ENERGY CALO		HEATING ENERGY AVINTEGRATED VALUE TIME COUNTER) BATTERY VOLTAGE SEARCHING IN THE B VALUE TABLE WITH

FIG 11

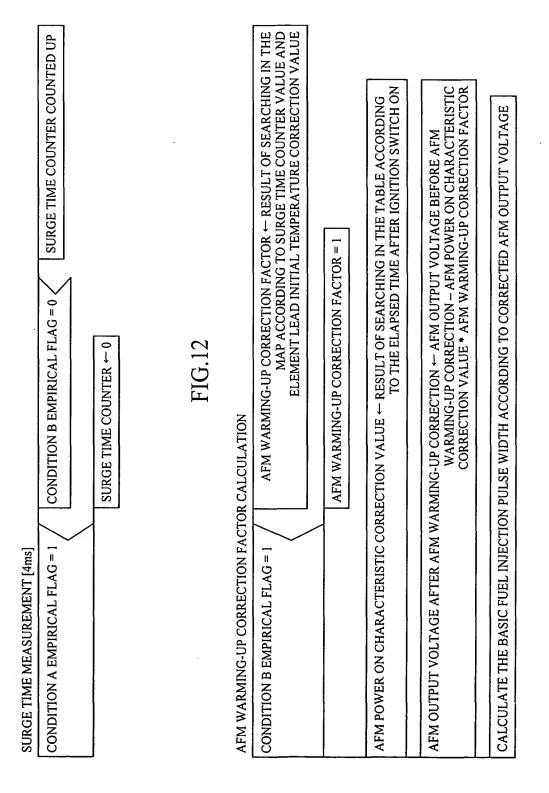


FIG.13

SURGE TIME COUNTER COUNTED UP ELEMENT LEAD INITIAL TEMPERATURE CORRECTION VALUE ← RESULT OF SEARCHING IN THE ELEMENT LEAD INITIAL TEMPERATURE CORRECTION TABLE ACCORDING TO ELEMENT LEAD INITIAL TEMPERATURE ELEMENT LEAD INITIAL TEMPERATURE  $\leftarrow$  RESULT OF SEARCHING IN THE ELEMENT LEAD INITIAL TEMPERATURE TABLE ACCORDING TO SURGE TIME CONDITION B EMPIRICAL FLAG = 0 CONDITION A EMPIRICAL FLAG = 1